IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex rel.
W. A. DREW EDMONDSON, in his
capacity as ATTORNEY GENERAL
OF THE STATE OF OKLAHOMA and
OKLAHOMA SECRETARY OF THE
ENVIRONMENT C. MILES TOLBERT
in his capacity as the TRUSTEE
FOR NATURAL RESOURCES FOR
THE STATE OF OKLAHOMA,

Plaintiffs

vs. 05-CV-0329 GKF SAJ

TYSON FOODS, INC., TYSON
POULTRY, INC., TYSON CHICKEN,
INC., COBB-VANTRESS, INC.,
AVIAGEN, INC., CAL-MAINE FOODS,
INC., CAL-MAINE FARMS, INC.,
CARGILL, INC., CARGILL TURKEY
PRODUCTION, LLC, GEORGE'S, INC.,
GEORGE'S FARMS, INC., PETERSON
FARMS, INC., SIMMONS FOODS, INC.,
and WILLOW BROOK FOODS, INC.,

Defendants

VIDEOTAPED DEPOSITION OF DANIEL STORM
Taken on Behalf of the Defendants
On September 23, 2008, beginning at 9:16 a.m.
In Oklahoma City, Oklahoma

APPEARANCES:

Appearing on behalf of the PLAINTIFF STATE OF
OKLAHOMA
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Videographer: Stephen Carns
Reported By: Becky C. Dame, CSR, RPR

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A Also, too.
Q All right. So 100 percent of the nonpoint source phosphorus load, the model will allocate among those four -- I call it buckets for allocation.
A Right.
Q Correct?
A Correct.
Q And it will allocate for those four buckets because you're the Wizard of Oz and you get to decide how many buckets there are; right?
I'm not trying to be flippant. But you pull the levers, you get to say; correct?
A Right. I'm the one that identified the primary sources and which are, you know, the minor sources.
Q Okay. So if we both agree that dirt roads in the watershed are a source of nonpoint source phosphorus contamination into the streams, we do agree on that; right?
A Sure. Area source.
Q Okay. Now, if there's not a bucket labeled "Dirt roads," then the real world phosphorus that you measure out there will get allocated to one of the four buckets you did put a label on; correct?

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A Correct. And we assume that it would be uniformly applied across all those categories, proportionately.
Q Okay. But the dirt road phosphorus, somehow it's going to get allocated to litter, soil STP, background, and grazing; correct?
A That's correct, yep.
Q Okay. If --
MR. McDANIEL: I think I'm done. I pass the witness.
Thank you.
MR. GEORGE: Theresa, do you have questions?
MS. HILL: No. Go ahead.
MR. GEORGE: Let's go off the record for just a second.
THE VIDEOGRAPHER: Off the record 4:14.
(Off the record.)
THE VIDEOGRAPHER: Okay. We're going back on the record. It's 4:21.
DIRECT EXAMINATION
BY MR. GEORGE:
Q Dr. Storm, my name is Robert George. I represent Tyson Foods in this lawsuit.
You are a professor; is that right?

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A Yes.
Q And do you actually have teaching responsibilities at Oklahoma State?
A Yes.
Q Okay. I'm going to ask you to be a professor with me for a moment and educate me, because, candidly, there are a lot of things about which you do that I don't fully understand.
A Sure.
Q So if you'll be patient with me, I'll appreciate it.
On Exhibit 1, which is your 2006 modeling report for ODEQ, on Page 1, you describe the model that you use to estimate the relative contribution of various land uses across the Illinois River watershed as a basin scale model.
Do you see that?
A Yes. Uh-huh.
Q What does that mean?
A So that means it takes into account upland areas as well as some of the processes occurring in the streams and rivers.
Q Why did you use a basin scale model in your 2006 modeling for DEQ?
A Because some of the in-stream processes

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are significant. If they were insignificant, then you would move to a different scale model.
Q I think I heard in your earlier testimony responses to questions by Mr. Elrod that there's at least one other type of model out there that's referred to as a field scale model. Are you familiar with that term?
A Uh-huh.
Q And if I understand your testimony correctly, the GLEAMS model used by Dr. Engel for his work in this lawsuit is a field scale model; is that right?
A That's my understanding at least.
Q Okay. Why do we need both field scale models and basin models? Do they serve different purposes?
A Sure. And, I mean, my understanding, too, is the stuff that Dr. Engel did, he accounted for his -- the in-stream process out separate, so it's not as though those processes weren't accounted for. All right?
The reason, though, for field scale models is that, depending upon the model itself, you may be able to better account for different types of management in more detail.

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to meeting the water quality standards for phosphorus in the Illinois River watershed; correct?
A For the river, yes, in Baron Fork.
Q And your 2006 modeling work done for ODEQ, outside of the context of this litigation, you concluded that the amount of litter applications in the watershed would have little, if any, effect on meeting the water quality standard for the rivers; correct?
A Correct.
Q In your 2006 modeling work done for ODEQ, outside the context of this litigation, you concluded that applications of poultry litter were responsible for approximately 15 percent of the total annual phosphorus level reaching Lake Tenkiller; correct?
A Correct.
Q And I think from the conversation you had with Mr. Elrod earlier, we agree that your 2006 modeling work done for ODEQ, outside the context of this litigation, allows you to conclude that approximately 21 percent of the phosphorus load to Lake Tenkiller was attributable to cattle, based upon your results?
A Yes.

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Q Look at Page 63 of your report, Dr. Storm. Actually, Page 62. I apologize.
A Now that makes sense.
Q You discussed with Mr. McDaniel earlier the 75 percent reduction goal established by ODEQ for your work?
A Yes, sir.
Q And in the paragraph next to the last -- on Page 62, you talk about what is necessary to reach that phosphorus reduction goal.
A That's 62 on mine.
MR. NANCE: That's Engel's.
THE WITNESS: Boy, we would have had a pretty good discussion there, wouldn't we?
BY MR. GEORGE:
Q Yes, it would have been.
A What are you talking about?
Okay. 62 of my report.
Q Correct.
A Okay.
Q You see the first sentence in the next to the last paragraph that begins with "Our model predicts the only way to reach the 75 percent reduction"?
A Uh-huh.

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Q There's a reference there to converting some pasture to forest as a change that your model indicated would be necessary to reach the water quality standard or goal established by the DEQ.
Do you see that?
A Yes.
Q What is that? What does that mean in the real world?
A That means you would reduce the agricultural activity that was occurring in the basin, so you physically plant trees and existing pasture.
Q All right. That's what I thought it meant, and I just wanted to make sure.
A Uh-huh.
Q So one of the conditions that you evaluated or changes in the watershed that you evaluated to improve phosphorus levels was the reforestation of the watershed; correct?
A Correct.
Q And in order to meet the 75 percent reduction goal, you determined that there would be some reforestation required in order to bring the water quality into compliance with that goal; correct?

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A As one scenario, yes.
Q All right. Let's look at this from the inverse for a moment.
If -- if planting trees improves or reduces phosphorus levels, do you agree with me that the removal of trees or deforestation contributes to the degradation of water in the watershed in terms of increased phosphorus levels?
A Generally speaking, that would be correct.
Q Since 1954, Dr. Storm, has there been -- let me back up.
1954 was when the dam was created, I believe, in Lake Tenkiller.
A Okay.
Q Since 1954, has there been substantial deforestation in the watershed?
A I can neither confirm or deny that. Actually, I don't know the degree of deforestation.
Q Well, you've spent some time in the watershed over the last couple of decades; is that right?
A Right.
Q And you're familiar with the growth of the urban areas in northwest Arkansas?
A Uh-huh. Correct.